

The Consortium for Advanced Radiation Sources (CARS-CAT)

ChemMatCARS 15

Current Capabilities &
Future Prospects

V. G. Young, Jr.
August 30, 2005

CARS-CAT User Statistics

2003-3 thru 2004-2

GSECARS	
Unique Users	191
User Visits	350
BioCARS	
Unique Users	377
User Visits	606
ChemMatCARS	
Unique Users	95
User Visits	132
CARS Total:	
Unique Users	<hr/> 663
User Visits	1088

Registered CARS-CAT Users: 1500

ChemMatCARS Sector 15 Overview

August 30, 2005

ChemMatCARS:

- **Part of the Consortium for Advanced Radiation Sources (CARS)**

ChemMatCARS

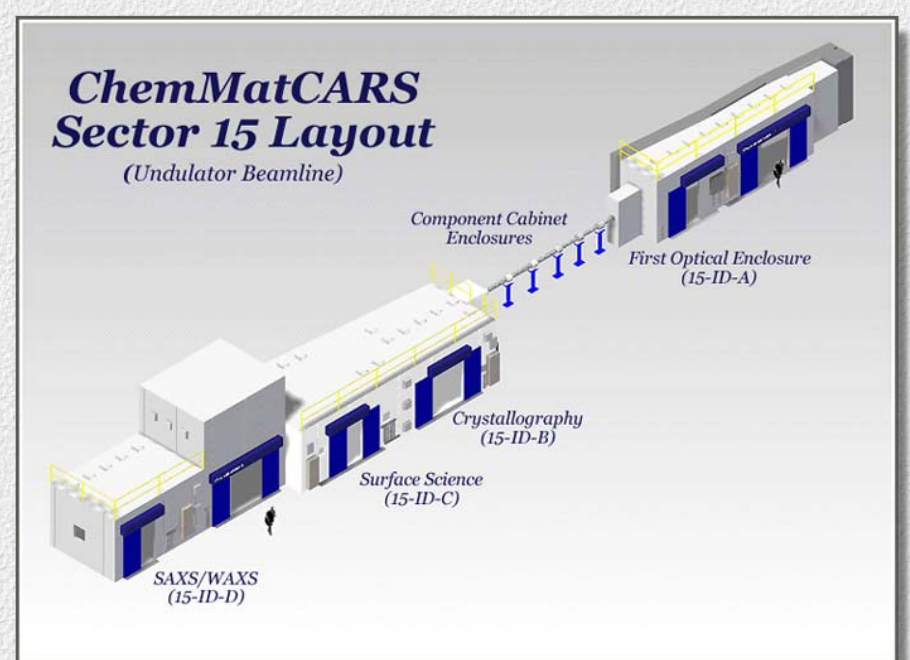
- **Operates an ID Line on Sector 15**
- **Funded as a User Facility by:**
NSF (Chem/DMR) and DOE(BES-Mat) &
Australian Nucl. Sci. and Tech. Organiz.
- **Target communities:**
Chemistry & Material Science
- **ID facility operational with >90%**
available beamtime to user community

ChemMatCARS



ID Beam Delivery

- **Undulator A**
- **Diamond 111 Kohzu-2 mono**
(6 to ~32 keV)
- **Double mirror 1:1 vertical and**
‘fixed offset’
- **~ 1 shift switchover**



Techniques available through APS GU program: (80% of all proposals evaluated by the APS PRP)

- **Chemical Crystallography-single crystal diffraction: Tim Graber**
 - Chemical (Micro) crystallography in 15-ID-C (Turn-key) in collaboration with Vic Young (U. of Minnesota):
 - Charge Density capability in collaboration with several user groups:
- **Time-resolved crystallography in 15-ID-B with P. Coppens(SUNY): Tim Graber**
- **Surface scattering /15-ID-C**
 - Wide q-range reflectivity and in plane scattering: **Binhua Lin**
- **Small angle x-ray scattering and wide angle x-ray scattering /15-ID-D**
 - Flexible, low noise, large q-range: **David Cookson**

User Statistics

Registered Users: 233

US

Alabama	1
California	7
Colorado	1
District of Columbia	1
Iowa	1
Illinois	65
Indiana	1
Massachusetts	15
Michigan	9
Minnesota	2
Missouri	2
New Jersey	1
New York	26

Ohio	13
South Carolina	1
Tennessee	6
Texas	2
Virginia	1
Washington	3
Wisconsin	1

Foreign

Australia	56
Denmark	10
Canada	2
Germany	2
Israel	1
Italy	1
New Zealand	1
Switzerland	1

Remote US	26
Remote Australia	20

Total Number of Registered Users	233
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Beamtime Usage

ChemMatCARS
Number of Shifts Per Technique
2004-2 thru 2005-1

